

## ABSTRACT

A highly reliable reciprocating compressor works efficiently with less energy, and produces smaller vibrations. This reciprocating compressor includes a crankshaft, a block, a piston, a connecting rod, and a balancing  
5 weight. The cylinder is placed in an offset position such that an axis line thereof and an axis line of the main shaft do not cross each other. The center of gravity of the balancing weight is placed substantially opposite to the center of the eccentric section with respect to the axis line of the main shaft and deviated along a rotating direction of the main shaft from a location exactly  
10 opposite to the center of the eccentric section. The foregoing construction allows for reduction of lateral pressure of the piston, thereby increasing the reliability and efficiency of the reciprocating compressor, and allows for cancellation of unbalancing forces produced by motions of the piston, the connecting rod and the eccentric section with motion of the balancing weight.